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(1)

(2) Abstract for American Physical Society, New York Meeting, January 28-31, 1959.

(2) *all topics* (2) *by*
Phase Transitions in Hexafluorophosphate Salts, K. Vedam, R. Pepinsky, Joseph

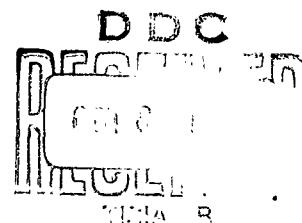
Lajzerowicz, Y. Okaya and N. Stemple, The Pennsylvania State University.—

NH₄PF₆·NH₄F is tetragonal at room temperature, and has two low-temperature transitions: at -45°C (= T_{uc}) and at -101°C (= T_{lc}).¹ Both low-temperature phases are orthorhombic. The dielectric constant $\epsilon_{[110]}$ exhibits a small anomaly at T_{uc}, and a pronounced anomaly at T_{lc}. X-ray examination reveals superstructuring along the a and b axes below T_{uc}, and a doubling of the c axis below T_{lc}. The lowest phase is antiferroelectric. A detailed structural investigation is required to reveal the dielectric character of the intermediate phase.

An order-disorder transition has been observed in KPF₆ at 4°C.¹ A detailed x-ray structure analysis reveals hindered rotation of the (PF₆)⁻¹ octahedra. A large thermal anomaly at the transition temperature suggests a "freezing in" of the hindered rotations in the lower phase.

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¹R. Pepinsky et al., Acta Cryst. 10, 835 (1957).



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